Aalto University
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BUSINESS MODELS FOR CONSUMER PRODUCT REUSE

An exploratory multiple case study of Finnish companies

Master's Thesis
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Abstract of master's thesis

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Abstract

Circular economy and collaborative consumption are creating new, potentially more sustainable business opportunities today, but businesses operating in that space are scarcely researched. This study addressed the research gap, and concentrated on business models of companies enabling reuse of consumer products. The objective was to increase academic understanding of businesses operating within circular economy and collaborative consumption, and to provide practitioners with insights of the industry, by describing business models existing in the field today.

The study was conducted as a qualitative multiple case study with five case companies. Data was gathered through interviews, and analyzed on the basis of earlier literature on circular economy, collaborative consumption, consumer product reuse, and business models.

The results indicated that there are diverse business models in use, ranging from platforms for peer-to-peer exchanges, to turnkey solutions for consumers willing to reuse. Based on the study, a framework for consumer product reuse business models was developed. The specialties of the framework include the role of consumers as both suppliers and customers of a service, the importance of trust between peers, the role of a company in reuse, and a company's aspirations for sustainability.

Keywords circular economy, collaborative consumption, reuse, business models

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Tiivistelmä

Kiertotalous ja jakamistalous luovat uusia liiketoimintamahdollisuuksia, joiden avulla voimme toivottavasti päästä lähemmäksi kestävää kehitystä. Alan yrityksiä on kuitenkin tutkittu akateemisesti hyvin vähän tähän mennessä, ja siksi tämä tutkielma käsittelee sellaisten yritysten liiketoimintamalleja, jotka mahdollistavat kuluttajatuotteiden uudelleenkäyttöä. Tutkimuksen tavoite on lisätä akateemista ymmärrystä kiertotalouden ja jakamistalouden piirissä toimivista yrityksistä ja tarjota päättäjille uutta näkemystä kuvailemalla alan olemassa olevia liiketoimintamalleja.

Tutkielma on kvalitatiivinen tapaustutkimus viidestä eri yrityksestä, ja tiedonkeruumenetelmäksi valittiin haastattelut. Tutkielman tulokset pohjautuvat sekä kerättyyn empiiriseen dataan, että aikaisempaan kirjallisuuteen kiertotaloudesta, jakamistaloudesta, kuluttajatuotteiden uudelleenkäytöstä ja liiketoimintamalleista.

Tutkimuksen tulokset osoittavat, että kuluttajatuotteiden uudelleenkäytön liiketoimintamalleja on monenlaisia, yksinkertaisista vertaiskaupan alustoista monimutkaisempiin avaimet käteen -palveluihin. Tutkielman tulosten perusteella kehitettiin uusi malli kuluttajatuotteiden uudelleenkäytön liiketoimintamallien kuvaamiseen. Mallin olennaisiin osiin kuuluvat kuluttajien rooli sekä asiakkaina että tavarantoimittajina, luotettavuuden merkitys vertaiskaupassa, yrityksen rooli osana uudelleenkäyttöä, ja yrityksen pyrkimykset kestävään kehitykseen.

Avainsanat kiertotalous, jakamistalous, uudelleenkäyttö, liiketoimintamallit

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1. Introduction

Climate change receives more attention today than ever before, and the situation of the world economy urges us to find alternatives to the current consumption lifestyle. Even corporate giants like Ikea publicly recognize the need for a change towards sustainability (see Sustainable Brands, 2016), and clothes chains like H&M and KappAhl have started to take in used and even broken textiles to ensure they are in on the transition to a more circular economy (see H&M and KappAhl). At the same time, new technologies offer new opportunities, and both sharing economy and circular economy are gaining wide-spread popularity. Resource scarcity is acknowledged increasingly and businesses react to the risk by searching for circular solutions (Prendeville & Bocken, 2015). The whole paradigm of how businesses function might be in change. The purpose of my thesis is to study companies in the middle of this change, in order to increase understanding of the business context in circular economy and collaborative consumption, both for the benefit of academia and practitioners.

1.1 Research Background

Circular economy is currently driven in the EU as a win-win solution to tackle the challenge of combining the wellbeing of the economy and the environment. It is different to the current, linear economic model as it aims to circulate materials in a systemic way. In other words, the aim is to avoid landfills and incineration, to increase efficiency and to save resources of the Earth. In the linear model, products and materials proceed from cradle to grave, from virgin resources and raw materials to landfills and incineration. The linear model is being questioned because both of its ends, cradle and grave, are problematic. Raw materials are finite, and some of them already extremely rare. In addition, there is limited space for landfills, and the atmosphere has a limited capacity to cope with emissions caused by incineration. These aspects make the linear model impossible in the long run, especially as the human population continues to grow. Thus, circular economy is presented as a more sustainable alternative.

A transition towards circular economy requires cooperation, networking and open discussion between various societal actors (Aarras, 2015; Ghisellini, Cialani, & Ulgiati, 2015). The institutional environment today is heavily linked to the linear economic model and thus complicates the transition (Levänen, 2015), which is why all societal actors need to be involved in changing the system. Businesses are among those actors, and may experiment with and innovate new, more circular and sustainable ways to function. Those experimentations and innovations may lead to new business models that are needed in and enabled by the transition. Understanding how different business models work in this context may help entrepreneurs in evolving new businesses, societies in overcoming environmental challenges, and researchers in conducting further research in the area.

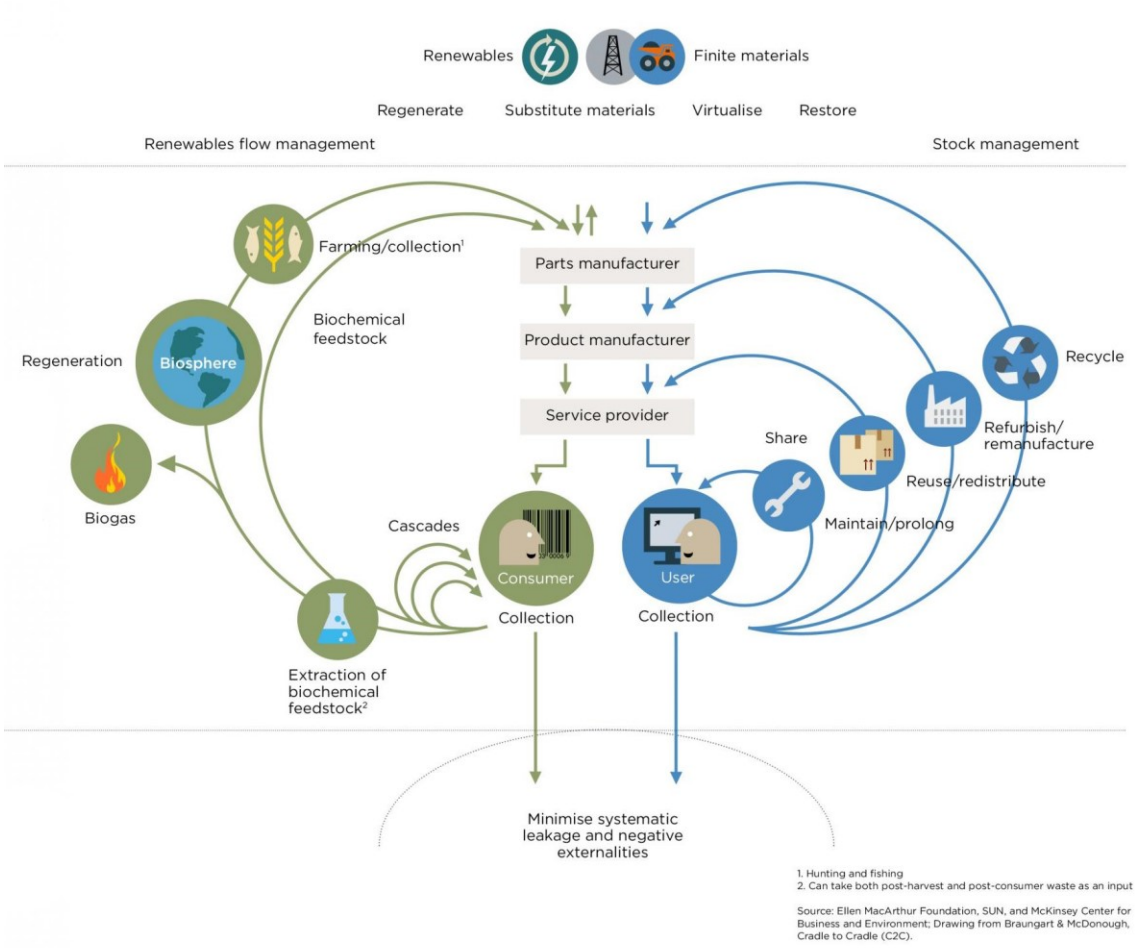

Figure 1 Outline of a circular economy (The Ellen MacArthur Foundation)

Circular economy is a broad concept originated from practice and legislation as well as from academia. Circular economy can be divided into biological and technical nutrient cycles as depicted in the figure 1 (The Ellen MacArthur Foundation, 2015). Biological nutrients on the left side refer to renewable, biodegradable materials that can be circulated back to the nature, and technical nutrients or materials on the right side refer to those materials that should be kept circulating in a closed loop as well as possible. (Braungart & McDonough, 2002). Inside the division to biological and technical materials, circular economy can also be divided to loops that illustrate different stages or options of circulation; maintenance, reuse and recycling, among others. The definition of circular economy is discussed further in chapter 2.1.

Some of the aforementioned options of circulation have received significantly more attention than others both in research and in practical initiatives. For example, recycling has received much more attention in public programs than remanufacturing or reuse.

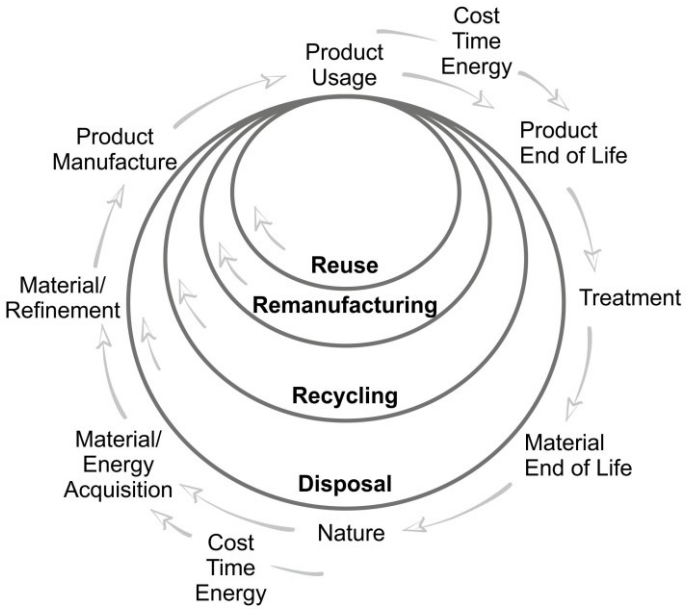

Figure 2 Life cycle stages of products (Mihelcic et al. 2003)

In a similar manner to the circular economy, a product life cycle can be described as stages (figure 2), and "in most cases the inner loops of reuse and remanufacturing are preferred because they require less natural resources and energy." (Mihelcic et al., 2003,

p. 5316). Therefore, my thesis concentrates on companies enabling reuse with their business. I further limit the subject to concentrate on reuse of consumer products. The consumer sector is likely to face different challenges in reuse as the material to be reused, remanufactured or recycled is dispersed among consumers, in other words it consists of small streams, and cannot be acquired readily in big quantities as in business-to-business markets or in the public sector. The definitions of reuse, remanufacturing and recycling will be discussed further in chapter 2.3.

Whereas circular economy is driven in regulations and on the industrial level, the other popular phenomenon called sharing economy or collaborative consumption can be seen more on a grass-roots level. It is emerging especially among consumers and start-ups, some of which have already grown large and world-renowned. The core idea of collaborative consumption is that consumers share resources with each other, and consequently make resource use more efficient and economic. The resources to be shared can be products, knowledge, or services, for example. With the help of the internet, the phenomenon grows so fast that it indeed threatens established businesses by transforming industries. Popular examples of the large players in the area include Airbnb and Zipcar, which enable higher utilization rates for real estate and cars, respectively. The definitions and attributes of the phenomenon will be discussed more in chapter 2.2.

1.2 Research Gap and Question

Academic research related to the aforementioned phenomena is in its early stages at the moment. There is limited research on business models compatible with circular economy, or on so called circular business models. Likewise, the Finnish context for circular economy or for collaborative consumption has been academically studied very little so far. There are some exceptions; about circular economy, there are two recent doctoral dissertations (Aarras, 2015; Levänen, 2015) and one media study by the Finnish Environmental Institute (Lavikainen, 2015). Aarras (2015) studied business opportunities of recycling and remanufacturing, and Levänen (2015) studied institutional obstacles of industrial recycling. Lavikainen (2015) studied the framing of circular economy as a

societal phenomenon in Finland, and focused on bioeconomy. In other words, none of them studied reuse or consumer business, which my thesis takes on.

Collaborative consumption has been studied even less in Finland than circular economy; I only found two recent theses made for bachelor degrees at Haaga-Helia university of applied sciences. Both of them had a regional focus, namely for Helsinki and Salla, and a consumer markets focus but not a company-level or a business model focus (Jäntti, 2016; Rannanlahti, 2016).

Studies on second-hand or reuse markets are relatively scarce, too, as well as studies on companies or other actors participating in the market. The studies that I found concentrated on non-profit organizations who receive products as donations (Alexander & Smaje, 2008; Castellani, Sala, & Mirabella, 2015; Gelbmann & Hammerl, 2015). Thus, the need for research concentrated on for-profit businesses in the reuse markets seems evident.

To fill the research gap described above, I aim to analyze Finnish businesses operating in the context of consumer product reuse in this exploratory study. The study is conducted as a qualitative, multiple case study based on interviews in five case companies: Huuto.net, Sharetribe, Vähänkäytetty.fi, We Started This, and Zadaa. The research question and the sub-question are:

> What kind of business models are there for consumer product reuse in Finland? How could those business models be described?

As an exploratory study, my thesis does not present all reuse business models comprehensively but rather describes some examples. The limitations of the study and other methodological aspects are discussed further in chapter 3.

1.3 Thesis Structure

After the introduction, the thesis proceeds as follows. In the chapter 2, I review literature about circular economy, collaborative consumption, consumer product reuse, and business models in order to map the business context of the case companies and to build a theoretical framework for the thesis, covering potentially significant business model elements for companies enabling consumer product reuse. Chapter 3 explicates how the empirical research was conducted, how the cases were chosen and what methods were used in studying them. Chapter 4 covers the findings of the study first case by case, and then offers a cross-case analysis. In the chapter 5, I discuss the implications of the study, and in the chapter 6, I conclude my thesis.

2. Theoretical Background for Consumer Product Reuse Business

In order to map the business context in consumer product reuse markets, I have chosen four relevant areas of literature to be reviewed here; circular economy, collaborative consumption, consumer product reuse, and business models. The selection stems from the lack of earlier research in consumer product reuse business, and aims to integrate the four aspects in a relevant way for the aforementioned business. Both circular economy and collaborative consumption have ambitious aims of making the society more sustainable, and consumer product reuse fits in both scenarios, potentially strengthening the societal change. As I decided to study the case companies on the level of their business models, I also review business model literature. At the end of the chapter, I synthesize the four themes and build a theoretic framework to guide the empirical part of my thesis.

2.1 Circular Economy

As discussed in the introduction, circular economy has emerged as a system-level answer to the dilemma between the wellbeing of the economy and the environment. The concept of circular economy is based on various academic fields and acts as an alternative for the neoclassical economy (Ghisellini et al., 2015), the linear model that is fundamentally problematic in a world of finite resources and a growing population. According to the Ellen MacArthur Foundation (2015), circular economy can be defined as follows:

> "[An economy that is] restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times, distinguishing between technical and biological cycles. This new economic model seeks to ultimately decouple global economic development from finite resource consumption."

2.1.1 Ideology of Circular Economy

Biological and technical cycles of circular economy were shortly presented in the introduction. They indicate the separation of renewable, biodegradable materials that can be circulated back to the nature, from technical materials that should be kept circulating

in a closed loop as well as possible (Braungart & McDonough, 2002). In other words, the biological cycle is supposed to circulate nutrients naturally, and is enabled when the biological components are separated from technical components that cannot decay. Circulating technical materials as well as possible highlights that circulating them as long as possible might not be the same. Circulating materials well includes the idea of keeping them at their highest utility and value possible, which typically means that the inner loops of maintenance and reuse should be prioritized and the outer loops utilized only after the inner loops become fruitless.

However, the academic terminology is not quite established yet. There are several other, related concepts in use, like recycling economy (Aarras, 2015) and cradle-to-cradle design (Braungart & McDonough, 2002). Recycling economy criticizes the linear economic model, but practically concentrates on waste only. On the contrary, circular economy takes a step further, considers the whole economic system and aims to prevent waste at all stages in addition to processing it in a smart way. Waste prevention should be accommodated in the design phase already, implying a proactive rather than a reactive approach to waste. Consequently, the systemic approach can make new solutions truly better and not only differentiated by, for example, offering more environmental but less economic value. (Ghisellini et al., 2015).

Cradle-to-cradle is a parallel concept to circular economy as their core is the same; closing the material cycles on a systemic level in order to have positive effects on the wellbeing of both people and the planet (Braungart & McDonough, 2002). Both concepts entail that material cycles need to be considered separately for biological and technical components or nutrients, as biological components can be fed back into the natural cycle whereas technical components should be kept circulating in the economy as they neither fit the natural process nor decay into new nutrients. Nevertheless, circular economy is a more neutral concept in the sense that cradle-to-cradle has been commercialized in the form of certifications.

The aim of circular economy is to ensure both the economy and the environment thrive, and that resource use is decoupled from economic growth. Decoupling is a commonly used concept in the discussions combining environment and economy. Decoupling can be relative, in which case resource use grows less than the economy, or it can be absolute, in which case resource use stays the same or declines when the economy grows. Circular economy could help in achieving decoupling as it provides an extended, systemic view as opposed to the current perception of product lives as lifespans or trajectories, similar to those of animals. (Ghisellini et al., 2015).

The approach of circular economy is to create positive environmental effects instead of only minimizing the negative effects (Braungart & McDonough, 2002). The positive principle is promoted, for example, by Sitra organization (2016) in Finland as a concept of carbon handprint that represents the positive impact next to the carbon footprint that represents the negative impact. Ultimately, products and services need to be reinvented for circular economy, so that the principles of circular economy are accounted for from the beginning of the design process rather than as add-on improvements. A systemic change requires the path dependencies of the current system to be changed so that the institutional environment would be more favorable for circular solutions. One of the reasons to embed the circular thinking into design processes is that because the design of current products doesn't take into account the discarding phase, recycling and incineration of products cause harmful combustion gases and poor quality of recycled materials. If different components and materials could be separated from each other more easily and economically, many resources would be saved from landfills and incineration. As long as the situation remains, it is very important to favor the inner loops of circulation over recycling to avoid the additional negative impacts. (Braungart & McDonough, 2002).

2.1.2 Wasted Resources

The outer loops of recycling and waste management have received more attention than reuse thus far (Ghisellini et al., 2015). There is certain merit to waste management, and a lot of positive development has been made in the area (Bartl, 2015). Still, many

developing countries don't have a functional waste management system at all, and people burn or discard even hazardous wastes, and the situation was similar also in Finland less than a century ago (Aarras, 2015). Therefore, further development efforts should be targeted to selected countries and not evenly to all countries, as the effects will be much greater in countries with less developed waste management. Finland, for example, is already quite advanced in waste management when compared to EU average. To reinforce the positive direction, development efforts in EU waste management should aim at preventing waste, and limiting waste exports, too, and not only increasing the recycling ratio. (Bartl, 2015). If more attention would be targeted to waste prevention on the policy level, it could have a remarkable effect on reuse and repair activities, and consequently on the business opportunities related to reuse and repair.

Waste issues have long been regarded only from the perspective of managing waste flows or getting rid of waste instead of reducing it; in other words, the approach to waste issues has been reactive rather than proactive (Cooper, 2010; Ghisellini et al., 2015). A newer approach is to see waste management as an opportunity and not only as costs (Ghisellini et al., 2015). A Finnish waste management company called Lassila & Tikanoja promotes this point of view in their public communications, for example by having changed the titles of their garbage truck drivers into resource collectors.

Nevertheless, not all recycling businesses are sustainable or decrease resource consumption even though recycling offers sustainable business opportunities (Aarras, 2015; Bartl, 2015). "The benefits from recycling of materials tend to decrease until a cut-off point is reached where recycling could be environmentally or economically too expensive to provide a net benefit" (Ghisellini et al., 2015, p. 5). For example, metals can be recycled more times than paper as their quality stays better in the recycling process. In addition, different materials need different amounts of time, chemicals and raw materials in the recycling process.

The business opportunities in recycling depend on legislation, too. The formal definitions of waste, byproducts and resources affect opportunities for utilizing of surplus materials

because there are different legal obligations on how they can be utilized (Aarras, 2015; Levänen, 2015). Regardless of the challenges, recycling is seen as an important part of the circular economy and increasing the recycling ratio may bring about positive environmental effects that economic growth can't provide (George, Lin, & Chen, 2015).

Nevertheless, recycling needs to be complemented with the other loops of circulation, reuse being one of them. Reuse is discussed further in chapter 2.3.

2.1.3 Critique for Circular Economy

The deficiencies of circular economy might relate to a social aspect; environment and economy are emphasized in circular economy so much that it's being criticized for ignoring the social aspect (Murray, Skene, & Haynes, 2015). Some authors talk about the social dimension and wellbeing as a parallel goal of circular economy with the wellbeing of the environment (Braungart & McDonough, 2002; Ghisellini et al., 2015), but it's not paid attention to as much as the environmental dimension, or studied in academia as thoroughly. In addition, circular economy might actually fit steady-state and degrowth models better than the model of continuous economic growth (Ghisellini et al., 2015) even though it's promoted in the EU as a solution to sustainable economic and environmental development.

Critics also point out that the theory of circular economy builds on physical rather than economic reasoning, which may limit the actual, achievable benefits to a lower level than what one might intuitively expect. The marginal utility of recycling is a decreasing one; the first steps towards recycling provide much more benefit than the later steps. (Andersen, 2007; Ghisellini et al., 2015). It can be argued that it if was economic, reuse and recycling would already be widespread by now. Nevertheless, new technologies and innovations can always provide new and unexpected opportunities. In addition, reuse and recycling in the consumer markets are very much dependent on cultural aspects, and thus the profitability of reuse and recycling depends on attitudes and habits, too, and not simply on a techno-economic calculation. As an example of the effect of the social realm, practice theory suggests that people are often unaware of the practices they reproduce;

buying or wearing clothes, for example, may not be seen as resource consumption at all, or as having environmental impacts (Jørgensen & Jensen, 2012).

The current consensus is that for the welfare of the economy we need to keep consuming and discarding products (Cooper, 2010). Circular economy could help in a transition from that paradigm to more sustainable lifestyles (Ghisellini et al., 2015) by challenging the inevitability of continuous discarding.

It could be questioned whether circular economy gains popularity in politics because it emphasizes economy more explicitly than sustainable development. Regardless, the goals of circular economy and sustainable development are in line. Circular economy might also be gaining support because the times are actually changing, and there is emerging readiness for environmental and sustainability questions to be addressed at large. The fact that the Paris Climate Conference in 2015 was a success supports the idea that the time is ripe; in the conference "195 countries adopted the first-ever universal, legally binding global climate deal" (The European Commission, 2016) and by September 2016, the countries with the biggest environmental impacts, China and the US had already ratified the contract.

All in all, reuse might have a much bigger role in the consumption culture of the future as a part of a more circular economy that enables both social and environmental wellbeing.

2.2 Collaborative consumption

Collaborative consumption holds potential for creating a more sustainable future by offering a new way of consumption and a renewed structure for economic activities. It can be defined as "the peer-to-peer-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services" (Hamari, Sjöklint, & Ukkonen, 2015, p. 1), or as "people coordinating the acquisition and distribution of a resource for a fee or other compensation" (Belk, 2014, p. 1597). The

second definition excludes activities involving no compensation, and positions collaborative consumption between sharing and marketplace exchange (Belk, 2014) whereas the first definition favors free transactions. Just like circular economy, this concept has spread to wider use quite recently and hasn't achieved an established position in academia yet (Heinrichs, 2013). There is a myriad of close concepts in use such as sharing economy, peer-to-peer business, and access-based consumption (e.g. Belk, 2014). Some researchers define collaborative consumption or sharing economy to include only access-based consumption as opposed to ownership, others give a broader definition for the phenomenon. In other words, collaborative consumption and sharing economy refer to the same phenomenon only with a different focus and possibly different limits. For the purposes of this thesis, the concept of collaborative consumption is used in a broad sense, referring to any peer-to-peer sharing, selling, giving or renting that doesn't require the peers to know each other personally.

2.2.1 Characteristics of Collaborative Consumption

Collaborative consumption is based on values and ideas that are ages old, now enabled to a new extent by the internet. It can be categorized into three types; product-service systems, redistribution markets and collaborative lifestyles. (Botsman & Rogers, 2010). Product-service systems are discussed later in this chapter 2.2, and redistribution markets in the next chapter 2.3. Collaborative lifestyles refer to people "banding together to share and exchange less tangible assets such as time, space, skills, and money" (Botsman & Rogers, 2010, p. 73), thus they will not be discussed further here as the two other types of collaborative consumption that concentrate on tangible assets are more relevant for this study.

Before the concept of sharing economy became popular, sharing was defined as nonreciprocal in research (Belk, 2010). Similarly, many intangible things, such as information in Wikipedia, or ratings in TripAdvisor are shared without direct compensation in the sharing economy. The development of internet towards Web 2.0 where users contribute and connect with each other offers favorable circumstances for

this kind of sharing (Belk, 2014). However, many forms of collaborative consumption include a compensation for sharing and especially for redistribution of products.

To succeed, collaborative consumption models need critical mass, idling capacity, belief in the commons, and trust between strangers. Critical mass stands for the amount of people needed for sufficient demand and supply to make a service attractive. Idling capacity means all the unused potential of property that is rarely used or not needed anymore. Belief in the commons means a belief in that the self-interest of "the rational man" doesn't necessarily make all commons impossible; that there is fairness in people using commonly available resources. Trust between strangers means trust that the others will not harm or deceive you; feedback and rating mechanisms are one solution widely used to encourage that kind of trust. Furthermore, convenience, secureness and cost-effectiveness are needed to make collaborative consumption a mainstream model because sustainability is often not the main reason for companies or customers to engage in collaborative consumption. (Botsman & Rogers, 2010).

To illustrate the size of the phenomenon, the Finnish already sell and buy products in consumer-to-consumer e-commerce for hundreds of millions of euros yearly, according to a study of the Finnish Commerce Federation. The sum is more than the Finnish spend for travelling in Estonia, for example, and results from approximately 40% of the Finnish having bought or sold something in consumer-to-consumer e-commerce in the past 18 months. (Kaupan liitto, 2015).

For companies, there are several ways to benefit from collaborative consumption: "(1) by selling use of a product rather than ownership, (2) by supporting customers in their desire to resell goods, (3) by exploiting unused resources and capacities, (4) by providing repair and maintenance services, (5) by using collaborative consumption to target new customers and (6) by developing entirely new business models enabled by collaborative consumption" (Matzler, Veider, & Kathan, 2015, p. 72). Examples of companies adapting to the phenomenon include Ikea and Patagonia, who offer their customers a marketplace where to resell their products (Matzler et al., 2015).

Collaborative consumption seems to be a more sustainable form of consumption than the traditional model of simple ownership (Ghisellini et al., 2015). Renting, sharing or selling an unnecessary product instead of storing or discarding of it means more intense product use because the full potential lifetime of products is rarely reached today (Cooper, 2010). If products are used more intensely, the amount of resources necessary for a demanded utility decreases (Heiskanen & Jalas, 2003). Selling the use of a product may prove to be beneficial as "the cost is predictable and no in-house maintenance staff is required --- And for the provider it pays to design longevity and recyclability into their products." (Schulte, 2013, p. 46).

2.2.2 Product-Service Systems

Product-service systems, or servitization, are one option to reduce the resource intensity of the economy. Unlike many direct peer-to-peer models of collaborative consumption, product-service systems are often provided by companies, even though they may also include sharing between peers. Servitization thinking suggests that products and services should be looked at as a continuum instead of a dichotomy (Heiskanen & Jalas, 2003). Some examples of possible product-service systems in the clothing industry include take-back services, consultancy, renting and repair. Consumer attitudes towards product-service systems seem to vary between different age groups. (Armstrong, Niinimäki, Kujala, Karell, & Lang, 2015).

Service providers may be less dependent on single technologies and other physical conditions than manufacturers, which means they could be more radically innovative than producers who are heavily invested in current processes. A trend towards services was detectable in the business-to-business markets already a decade ago, but less so in the consumer market. (Heiskanen & Jalas, 2003). In the past decade, however, various companies have been created and become successful, for example Spotify and Netflix who offer listening and watching instead of selling records, videos or other physical products. In Finland, recent product-service system examples include service contracts with monthly payments for eye glasses, car service, and dental care.

2.2.3 Critique for Collaborative Consumption

Collaborative consumption has generated radically new ways for the economy to function, and therefore legal and tax-related concerns are emerging. Whereas the emerging economic activities may provide people with less expensive services and more diverse sources of income, traditional retailers and service providers have a myriad of legal duties, which these new activities may bypass. Examples of possibly disregarded issues include intellectual property rights, environmental and safety issues, retirement benefits, and health care.

2.3 Consumer Product Reuse

Reuse is an important part of the circular economy. However, its definition varies somewhat depending on the context (e.g. Gelbmann & Hammerl, 2015). As shown in the introduction, the Ellen MacArthur Foundation presents five loops or options for circulating products; share, maintain/prolong, reuse/redistribute, refurbish/remanufacture and recycle, whereas Mihelcic et al. (2003) only use four; reuse, remanufacturing, recycling and disposal, and Ghisellini et al. (2015) point out that literature mostly focuses on the three of reduce, reuse and recycle. In the last version, reuse is understood the most broadly, in the others, it's divided into more specific concepts such as reuse and refurbishment. Definitions for these concepts are surprisingly hard to find, but one for reuse is: "any operation by which products or components that are not waste are used again for the same purpose for which they were conceived" (European Commission, 2008). The problem of this definition in the context of consumer products is that when someone sells or donates used products in any channel, it's not possible to know for which purpose the new owner acquires the product. For example, old dishes could be used for their original purpose or alternatively as flower pots. This kind of use for another purpose but still without any disassembling or refurbishing fits neither the EU definition, nor the other circular loops mentioned above. As the product stays similar and is used again, it could be counted as reuse. Therefore, I define reuse as the continued use of a product by someone else than the original user (see Gelbmann & Hammerl, 2015). Accordingly, my

thesis doesn't study the purpose to which used goods are exchanged through the case companies, but rather focuses on the companies enabling this kind of exchanges.

2.3.1 Effects of Consumer Product Reuse

Reuse markets, also called second-hand markets, were long ignored in academia as not influential for the macro economy, even though they actually may influence the economy in several ways. For example, functioning second-hand markets may decrease the effects of income differences, or boost the economy by allowing consumers to replace their products more often, or by offering new business opportunities. On the other hand, accumulating and storing of commodities may depress the economy. (Scitovsky, 1994). Growing reuse markets may also affect the geographical distribution of work and economic activity; clothing industry, for example, outsources significant parts of the production to developing countries (Jørgensen & Jensen, 2012), whereas reuse may be more viable locally wherever products are not used to their full potential. In other words, profits involved in the clothing industry might distribute differently as reuse markets grow, at least to the degree that reuse markets decrease demand for new products.

As explained in the introduction, studies on reuse business are scarce, and concentrate mostly on non-profit organizations, environmental impacts of reuse, or consumer behavior. For example, reuse of clothing and textiles has been assessed in terms of energy; both the reuse of natural and synthetic fibers save energy compared to buying new products (Woolridge, Ward, Phillips, Collins, & Gandy, 2006). In another study, three Austrian non-profit organizations were studied and found to provide sustainable impacts such as reduction of waste and providing of jobs for disadvantaged people (Gelbmann & Hammerl, 2015).

A case study of an Italian second-hand shop counted and compared the effects of different second-hand goods, and concluded that reusing furniture provided the greatest environmental benefits per piece, and reusing apparel provided the greatest benefits in total, as the sales volumes were much higher for apparel than for furniture. The research was conducted with the methods of life cycle assessment. The case company acquires

used products as donations, and sells them mainly to people with low income. The issue of whether the reused products replace new products is highly relevant for the environmental benefits associated with reuse, and in this case it was accounted for by surveying the customers, and only calculating the portion of sales that was indicated by the survey to fully replace new products. (Castellani et al., 2015).

Another study evaluated third sector reuse organizations in the UK, and found out that the institutional and local context of a reuse organization affects its net benefits remarkably. Economically, the case organizations made losses in spite of the environmental and social benefits they accrued. (Alexander & Smaje, 2008). Nevertheless, the third sector organizations in question divided their focus between remediating poverty, offering jobs for the disadvantaged, and increasing reuse (ibid); private businesses operating under market conditions and focusing on reuse only may be more likely to be profitable. On the other hand, targeting wealthier customer segments might also mean that a smaller percentage of sales will replace new products, and thus decrease the positive environmental impacts.

2.3.2 Context of Consumer Product Reuse

The profitability of reuse organizations in Finland benefits from a special margin tax procedure; if a retailer wishes, it can pay the tax of reused products by the profit margin, defined as the difference between the selling price and the purchase price. The margin tax procedure applies to products that have been in use, and are sold to further use as such, or as repaired, refurbished or disassembled. The procedure doesn't apply to buildings or land, or if the product has been processed further into a new product or material. The procedure is applied only to products bought from private persons or non-profit entities. (Verohallinto, 2016).

As reuse markets keep growing, traditional retailers are slowly realizing that they will need to adapt to the situation somehow; it presents both a threat and an opportunity to them. As a Finnish example, well-known retailers like Anttila and Stockmann have faced severe difficulties in their business while consumer-to-consumer markets thrive (Kaupan

liitto, 2015). Earlier, resales were not considered as significant competition, partly because they were mostly part of the informal economy (Paden & Stell, 2005). In addition, resales haven't been the business of large enterprises; "Expansion of [bricks-and-mortar] second-hand business is risky and requires a lot of work, when comparing with other types of businesses" (Han, 2013, p. 77).

Nowadays, there are much more options in redistribution channels as the figure 3 shows; there are various channels that can be categorized according to whether they are direct or indirect, and whether the transaction is remunerated or not (Paden & Stell, 2005). Consumer-to-consumer and internet channels further increase the myriad of options, and change the opportunities for expanding a business as well.

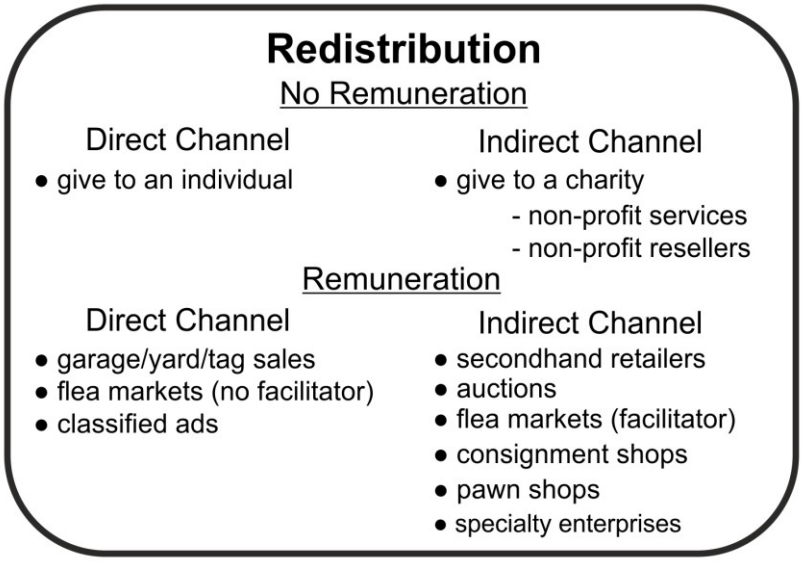

Figure 3 Redistribution channels (Paden & Stell, 2005)

The supply chain of reuse in consumer sector is very different to traditional retail, manufacturing, or even service businesses; procurement and sales both target consumers, whether procurement and sales have the same target group as could be in auctions, for example, or different target groups as could be in charity channels, for example. The unconventional structure means that consumers are simultaneously customers to a disposal service and suppliers of products (Gelbmann & Hammerl, 2015).

The ability of consumers to evaluate product durability affects the growth possibilities of reuse markets because near-disposable products are not as suitable for reuse as more durable products. At the moment, high-quality products may be less profitable to sell because consumers have difficulties in evaluating the quality of durable goods (Waldman, 2003). Functioning second-hand markets add value for long-lasting products as it gives them resale value. If long-lasting products start to be demanded more, it also encourages manufacturers to offer those products more. At the moment, few products are treated as long-term investments, and their full potential lifetime is rarely reached (Cooper, 2010). The evaluation problem persists, and better information about intended product life-spans for consumers is called for (Cooper, 2010; Ghisellini et al., 2015).

2.3.3 Planned Obsolescence

Long product lives haven't traditionally been appreciated. In 1930s there was a proposal for the US government to restrict product lifetimes by legislation in order to revitalize employment and end the depression (London, 1932). The argument would probably be regarded quite extraordinary today, in terms of the freedom of the consumer: "Changing habits of consumption have destroyed property values and opportunities for employment. The welfare of society has been left to pure chance and accident." (London, 1932, p. 4). This proposal would have prevented second-hand markets from emerging as it suggested that manufacturers would repurchase products after the designated lifetime, apparently to be destroyed. On the other hand, repurchasing may have encouraged circular thinking among the manufacturers.

Even though the legislation proposal was abandoned, the current economic model may encourage traditional manufacturing and sales companies to shorten the lives of their products, or at least not to invest in prolonging them. Shortened product lives, or planned obsolescence have been studied for decades. The concept of planned obsolescence is defined as "the practice or policy of curtailing the life of manufactured products (as by using non-durable materials, frequently changing design, terminating the supply of spare

parts, etc.), so as to induce consumers to replace them regularly" ("Oxford English Dictionary," 2015).

Planned obsolescence is often categorized into absolute and relative obsolescence in literature. Absolute obsolescence entails simple inability of the product to serve its purpose. Relative obsolescence consists of psychological, economic and technological obsolescence. Psychological obsolescence implicates that the use of a product is discontinued because of subjective attraction, for example. Economic obsolescence implicates reasons like a high price of repair or a low price of replacement. Technological obsolescence implicates reasons like technological inferiority or incompatibility. (Cooper, 2004). Whether a product is reused, maintained properly, or repaired rather than disposed of, is dependent on user behavior and socio-cultural influences in addition to the product's technical qualities (Cooper, 2010).

Planned obsolescence seems to work in favor of companies at the expense of the environment and the consumers. Of course, some companies resist the phenomenon and explicitly invest in durability and quality. Reuse markets may change the equilibrium and encourage manufacturers to invest in durability. Nevertheless, if increasing product durability increases prices as well, concerns of social impacts and affordability may arise (Cooper, 2010). Functioning reuse markets still help in resisting planned obsolescence as consumers can profit more from selecting more durable goods.

2.4 Business Models

The purpose of my thesis is to study companies participating in the transition towards circular economy and collaborative consumption, and more specifically to describe companies enabling consumer product reuse. "Business models seek to explain both value creation and value capture" (Zott, Amit, & Massa, 2011, p. 1020) and link "future planning (strategy), and the operative implementation (process management)" (Wirtz, Pistoia, Ullrich, & Göttel, 2016, p. 38), so they offer a useful tool for descriptive research concentrating on the level of a company.

Literature on business models has several sub-categories, concentrating on businesses of a given industry or with another common nominator. This chapter entails literature about business models in general, and touches upon the sub-categories concentrating on sustainable business models, retail business models and e-business models as those areas are relevant for the focus of my study.

The literature about business models is still quite dispersed as it only boomed some fifteen years ago, and so far there is no consensus on the definition of a business model (DaSilva & Trkman, 2014; Teece, 2010; Wirtz et al., 2016; Zott et al., 2011). A business model is different to a strategy in that a strategy describes the direction of a company, whereas a business model is a more detailed description of how the company goes to that direction in its everyday operations. If the strategy of a company changes, the business model needs to adapt; nevertheless, the business model can change even when the strategy remains the same. (Sorescu, Frambach, Singh, Rangaswamy, & Bridges, 2011). In other words, "strategy reflects what a company aims to become, while business models describe what a company really is at a given time" (DaSilva & Trkman, 2014, p. 383).

One of the best-known definitions for a business model is the following; "A business model describes the rational of how an organization creates, delivers and captures value." (Osterwalder & Pigneur, 2010, p. 14). The researchers behind this definition have created a visual tool for describing a business model, called the business model canvas (ibid, figure 4). It offers a more detailed and comprehensive aspect than many other authors represent (Wirtz et al., 2016), and consists of nine blocks: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships and cost structure (Osterwalder & Pigneur, 2010). These nine blocks enable a description of a company and its competitive advantage in a simple and visual way that still has a firm groundwork and well-considered logics behind it. By allowing descriptions, the business model canvas also helps in comparing companies, and in demonstrating business model innovations.

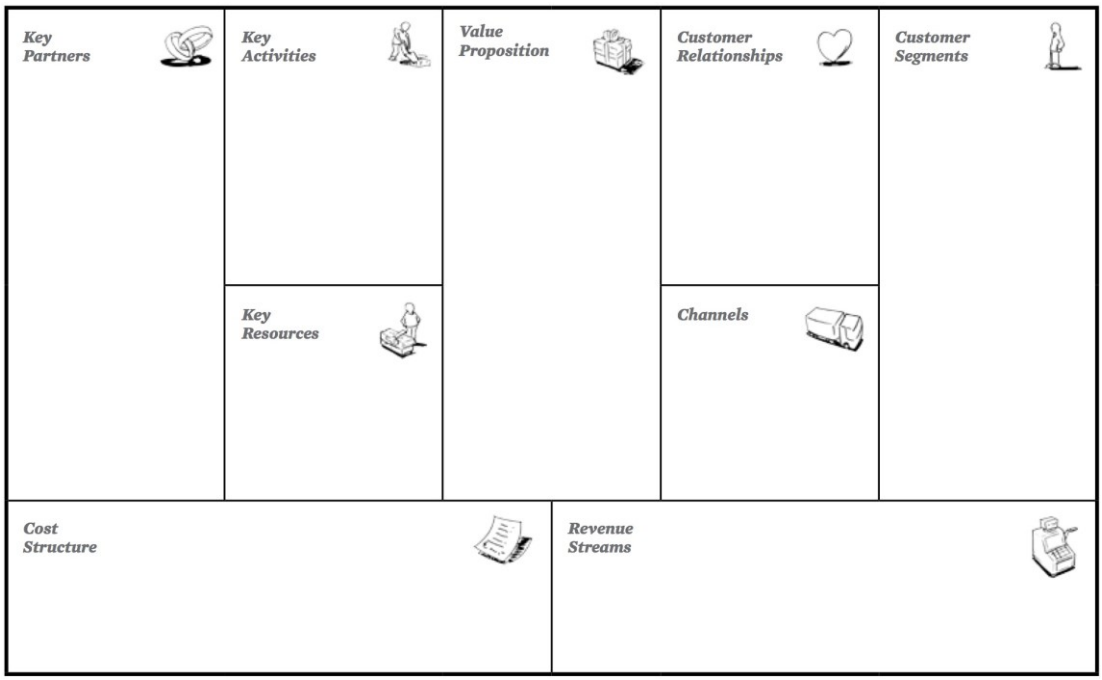

Figure 4 The business model canvas (Osterwalder, Pigneur & Clark, 2010)

From a narrow point of view, innovations have been seen as new technologies, products, and services. Regardless, business models can be innovative as well, and innovative business models can offer significant competitive advantage by changing the rules of the game, the conventional system. "Business model innovation is not a matter of superior foresight ex ante - rather, it requires significant trial and error, and quite a bit of adaptation ex post" (Chesbrough, 2010, p. 356). The need for experimentation stems from the scarcity of existing knowledge and scarcity of experience in the new model. At the time of broader changes, like the growth of collaborative consumption and circular economy, it is not clear what kind of business models will succeed in the new situation, and consequently business model experiments are necessary. (Chesbrough, 2010; Teece, 2010). "Designing a new business model requires creativity, insight, and a good deal of customer, competitor and supplier information and intelligence." (Teece, 2010, p. 187).

Innovativeness is needed in consumer business as retailers are more than just logistics middlemen today; "Viewing retailing as spaces (sometimes, virtual) for staging customer experiences requires business models that go beyond traditional functions of procuring, stocking, and moving products." (Sorescu et al., 2011, p. 5). Internet may help in bringing

about innovativeness; e-businesses tend to be innovative more diversely than traditional companies as they are innovative also in structuring their business, in addition to innovating products, services, and operating methods (Amit & Zott, 2001).

As business models are relatively public and observable, new and successful ones are copied quickly by competitors; both by large players of the market in question and by new entrants to the market. Nevertheless, if the systems or the resources of a company are difficult to imitate, it may protect the business model from being copied. Other protective elements include insufficient transparency for external parties to understand the business model details or the materiality of its components, and reluctance by incumbents to undermine their existing business. (Teece, 2010). It is likely that traditional sales organizations are unwilling to start to compete with reuse businesses as doing so could undermine their traditional business; second-hand products readily replace new products to some extent. On the other hand, if the reuse markets keep growing, and the reused products are replacing new products, there will be a moment in time when the business of the traditional sales organizations has already been undermined by others so that they have to change. Unwillingness of long-established companies to change may also stem from a lack of options, which prior investments and decisions are likely to contribute to (Sorescu et al., 2011). In the reuse context, those prior investments of established sales organizations might be supply chain structures and partnerships, for example. Even if the established organizations saw that reuse markets are growing to the detriment of traditional manufacturing and sales, they might lack options to participate in the growing reuse markets.

2.4.1 Sustainable Business Models

There is potential for sustainability in the reuse business as reuse could decrease the consumption of raw materials and accumulation of waste, for example. Research on sustainable business models has defined different archetypes of a sustainable business model; “Maximize material and energy efficiency; Create value from ‘waste’; Substitute with renewables and natural processes; Deliver functionality rather than ownership; Adopt a stewardship role; Encourage sufficiency; Re-purpose the business for

society/environment; and Develop scale-up solutions." (Bocken, Short, Rana, & Evans, 2014, p. 42). The archetypes are not mutually exclusive, and in the reality, combinations of them are most likely needed. They offer one lens through which business models can be looked at; second-hand marketplaces are an example of the archetype encouraging sufficiency. (Ibid, 2014). Businesses enabling reuse might also help in maximizing material and energy efficiency, and innovative business models could offer scalable solutions.

Nevertheless, the actual sustainability of any business needs to be evaluated from a systemic perspective and not only on the level of the company (Aarras, 2015). As the focus of this study is on companies and their business models, evaluating their actual impacts on sustainable development falls outside the scope of this study.

2.4.2 Circular Business Models

In addition to sustainable business models, business models suitable for circular economy have also been studied to some extent. "A circular business model describes the rationale of how an organization creates and delivers value to customers and captures value for itself while it simultaneously designs out waste, relies on renewable energy, thinks in systems, and embraces diversity to build organizational resilience." (Swaffer Poutiainen, 2015, p. 32). In other words, a circular business model requires systemic thinking and careful design to minimize waste, and to enable disassembly, reparability, and the use of renewable energy (Schulte, 2013).

Most studies on sustainable or circular business models are either theoretical or single case studies. In other words, the research done so far isn't that comprehensive yet. One exploratory case study on circular business models studied a manufacturer that piloted remanufacturing of office chairs in order to learn about the feasibility of transitioning itself into a more circular business. Their office chairs consisted of 12 main parts and they learned that out of the 12, three typically needed to be replaced. Originally operating in the business-to-business market, the case company found out that the consumer market was a potential segment for the remanufactured office chairs as their prices are lower than

those of new products. (Prendeville & Bocken, 2015). Unfortunately, similar studies on companies experimenting with redistribution or reuse couldn't be found.

2.4.3 E-Business Models

The case selection of my thesis produced five companies operating online, which is why the e-business research is also shortly reviewed here. The case selection for its part will be explained in the chapter 3 on methodology. E-business means doing business with the help of the internet, and not only using it as an additional information channel supporting the actual business (Zott et al., 2011). The concept of e-business isn't directly related to sustainability, but many new business models and companies emerging and participating in circular economy and in collaborative consumption are dependent on the internet. Companies utilizing internet in their core businesses supposedly have different challenges, needs and opportunities than traditional, offline businesses, which is why there is literature on e-businesses in the first place.

E-businesses shouldn't rely solely on advertising revenues but they should seek various revenue and business models. The need for more various revenue models stems from the findings that advertising is needed, wanted and trusted less than before. (Clemons, 2009). Alternative, potential revenue sources include subscription fees, commissions and transaction cuts, revenue sharing, and product sales (Dubosson-Torbay, Osterwalder, & Pigneur, 2002). The object of revenue can be real (e.g. traditional products), virtual (e.g. information, music content or participation in a community), or access-based (e.g. contextualized advertising) (Clemons, 2009). The versatility of potential revenues also holds that revenues can be generated from various stakeholders. For example, models based on advertisement may entail that advertisers bring in the revenues and consumers are only end-users bringing in and utilizing content.

Typical value sources of e-business include novelty, lock-in, complementarity and efficiency. Novelty holds that there is little competition for the service to begin with. Lock-in refers to the reasons why a customer is less likely to change to a competitor. Lock-in solutions can include loyalty programs, superior components of customer

experience, or solutions that create trust, for example. Complementarities refer to the portfolio of products and services that an e-business offers, and how that portfolio reinforces itself by offering more value than the same products and services would offer if acquired separately. Efficiency refers to transaction efficiencies compared to competitors online and offline; for example, simplicity, speed, and information increase these efficiencies. (Amit & Zott, 2001). These value sources give an idea of how also a reuse e-business could attract customers and create value.

Both brick-and-mortar models and e-business models have their advantages. Therefore, some retailers were aiming to converge the two already some 15 years ago. For example, e-business is more easily scalable, whereas brick-and-mortar stores benefit from customers being able to sense and try products physically. (Enders & Jelassi, 2000).

2.5 Theoretical Framework for Reuse Business Models

Based on the literature review, there are several aspects that could possibly offer insight to business models of consumer product reuse companies. In this chapter, I present the potentially material aspects that emerged from the business model canvas and other literature in the literature review. The following aspects are then used in the empirical part of the thesis and returned to in the discussion chapter 5.

First, value proposition is the central piece of any business model. Customers and partners of a company describe a business model further, and costs and revenues naturally determine the viability of a business. E-businesses especially have several potential revenue sources, so the versatility of revenue sources used in consumer reuse businesses is one of the aspects chosen in this study. The operational elements of the business model canvas, namely channels, customer relationships, key resources, and key activities are also included in the framework. (Clemons, 2009; Dubosson-Torbay et al., 2002; Osterwalder & Pigneur, 2010). The role of consumers is likely different in reuse business than in traditional sales business; consumers can act both as customers, and as suppliers or sellers in the business (Gelbmann & Hammerl, 2015).

It is likely that the case companies operating in the emerging reuse markets experiment with, and develop new business models as explained in the chapter 2.4. Therefore, the development and challenges of the business might provide interesting information and are added to the framework, as well as the decision-makers' view of the development of the market space.

The significance of trust was emphasized both in the context of collaborative consumption and e-business (Amit & Zott, 2001; Botsman & Rogers, 2010), and thus it's added to the framework as well. Will the interviewees bring it forth? What kind of solutions do the companies have for trust creation? Other prerequisites for collaborative consumption included critical mass, idling capacity, and belief in the commons. These three are not included in the framework because of the scope of my study, unless they emerge in the interviews as vital parts of the case business models. Critical mass is excluded because any business needs a sufficient amount of customers, which is why the case business models are not likely to differ from other business models in that sense. Idling capacity is excluded as an existing state of affairs, a prerequisite already fulfilled, and belief in the commons is excluded because it applies more to other modes of collaborative consumption than to reuse business where there are no commons to worry about.

The position of a company in the reuse sector can be described with Paden and Stell's (2005) redistribution framework presented in the chapter 2.3; whether the exchanges are remunerated for the seller-suppliers or not, and whether the company is an active facilitator or merely a channel or a platform for the exchanges. This kind of a categorization may prove interesting especially for further studies in the area.

Even though both circular economy and collaborative consumption can direct our society towards more sustainable development, new businesses and new consumption habits are often founded for other reasons than sustainability (Botsman & Rogers, 2010). Thus, how the business was born is added to the framework, as well as its relationship to sustainable

development. In order to study the sustainability potential of a business, and whether it aims for a larger, systemic change promoted by the ideology of circular economy, the target group of the business is added to the framework; whether it's the mass or a niche audience. As a more detailed example of impacts on sustainability, the treatment of unsold products is looked into. Nevertheless, evaluating the businesses' actual impacts on sustainability falls outside the scope of this study. Thus, the aforementioned aspects are added to the framework as indicators of a decision-maker's aspiration-level regarding sustainability rather than indicators of the actual sustainability of the business.

The aforementioned aspects together comprise the theoretical framework for my thesis, and they are depicted visually in the figure 5. The centre of the figure is the business model canvas, and the additional aspects circle the canvas; the positions of the additional aspects in relation to the elements of the canvas couldn't be determined based on the existing literature, except for that trust creation is related to the customer-related elements of the canvas.

<table>
<tr><td colspan="6">start of the company, its development and challenges

← trust creation →</td></tr>
<tr><td rowspan="4">role in reuse;

a direct channel or a facilitator,

remuneration for seller-suppliers or not</td><td rowspan="2">key partners</td><td>key activities</td><td rowspan="2">value proposition</td><td>customer relationships</td><td rowspan="2">customer segments</td></tr>
<tr><td>key resources</td><td>channels</td></tr>
<tr><td colspan="2">cost structure</td><td colspan="2">revenue streams</td></tr>
<tr><td colspan="4">aspiration-level for sustainability

treatment of unsold products</td></tr>
</table>

Figure 5 Theoretical framework of business models for consumer product reuse

3. Methodology

This chapter explains how the empirical research was conducted in my thesis; why it's a descriptive, qualitative multiple case study, how the cases were chosen, what kind of data collection methods were used, and how the data collection and analysis process was executed. The validity and limitations of the study are also reflected on.

The research questions - What kind of business models are there for consumer product reuse in Finland? How could those business models be described? - are qualitative by nature; they concentrate on descriptions. According to Eriksson and Kovalainen (2008), case studies can describe complex business issues in a lively and understandable way, and multiple case studies are often used to construct description and comparison simultaneously.

A careful selection of cases is important as it "constrains extraneous variation and sharpens external validity" (Eisenhardt, 1989, p. 533), and might affect generalizing possibilities even more than the number of cases (Flick, 2009). I used purposive sampling and chose organizations that operate in Finland and enable consumer product reuse with their operations. Even though there are some long-established models of reuse business such as brick-and-mortar flea markets, I decided to concentrate on companies that are doing something new, in order to find more variability in the specific niche of consumer product reuse business. In a rapidly changing business environment that was described in the introduction, it is likely that new solutions are emerging, and studying new solutions may provide new information for academia and new ideas for practitioners. In practice, I chose companies that enable consumer product reuse and operate online.

The Finnish context was chosen because the institutional environment affects companies, and focusing on one context increases the validity of the research. In addition, I excluded second-hand trade that doesn't offer any business opportunities as such, in other words I excluded businesses whose business models do not include reuse but for which reuse is more of an unintended consequence. One example of that kind of business is Facebook,

where considerably many flea market groups operate; even though Facebook enables reuse, its value offer and business model are not related to product reuse but rather to peer-to-peer interaction that happens to be used for second-hand trade amongst a myriad of other uses.

Using the aforementioned principles for sampling, I built the case pool by searching for, and contacting companies that enable either reuse of consumer products in general, or reuse of clothes and accessories in particular. Initially, I contacted six companies by email, and received five positive answers. One of the contacted companies never replied, but Huuto.net (owned by Sanoma Media Finland Oy), Sharetribe, Vähänkäytetty.fi (officially Suomen Nettikirpputorit Oy), We Started This, and Zadaa (officially Digital Fabric Oy) were willing to participate in the study. The number of cases was sufficient at that point, and the data gathering reassured that evaluation; certain themes started to surface repeatedly.

As a data gathering method, I chose to conduct semi-structured interviews in order to enable both systematic data gathering and depth-increasing additional questions (Rubin & Rubin, 2005). The interview guide was built on the nine blocks of the business model canvas, and strengthened by additional questions related to the challenges of the business, for example, as presented in the framework chapter 2.5. Good research combines earlier research and theories with creative thinking to construct a set of interview themes (Aaltola & Valli, 2001). When studying a new business context like the context of collaborative consumption and circular economy, there might well be experimental and innovative business models (Amit & Zott, 2001; Chesbrough, 2010; Sorescu et al., 2011; Teece, 2010). Even though the business model canvas is a largely used tool that enables the description of the case companies, the use of an established way of graphic description might pose some restrictions for the ability to observe innovative elements of the business models.

The interviewees in the case companies were chosen by their position, aiming for the management level in order to get valid, in-depth understanding significant for the

company in question. As a result, I interviewed founders in all case companies except for Huuto.net, which is a significantly older company than the others and whose founder hasn't been involved in the business for a long time. In Huuto.net's case, I interviewed the director of e-commerce, after having initially contacted a sales group manager to find a suitable interviewee. The interviewees, and the times and the places of the interviews are listed in Appendix I.

The interviews were conducted in Finnish, because it is the native language of the interviewees and the interviewer and may therefore convey richer details than a common, foreign language. Consequently, interview quotes presented in the thesis have been translated to English, as carefully as possible to conserve the meaning and the style of the quote.

Three interviews were conducted at case company offices, one was conducted over Skype and one in a café. The interviews took approximately half an hour to one hour of time each, and the records were transcribed shortly after the interviews. Both the records and transcripts were saved in two locations, on a hard drive and on a cloud storage service, to avoid information losses in case of technological malfunctions. Both locations are password-protected.

To support the interview materials, and to familiarize myself with the case businesses, I visited the case companies' websites and, in the case of Zadaa, their mobile application, which serve as the customer interfaces for the companies (see Appendix II). However, interviews presented the actual, thorough data gathering method in the study. The interviewees were sent a digital copy of the thesis before it was turned in so that they got a chance to read it as well. The opportunity didn't lead to any changes in the thesis, however.

As an exploratory study, my thesis presents some examples of existing business models in the consumer product reuse business in Finland. The results of the study are not fully generalizable due to the qualitative nature of the study, but are indicative for further

research and offer some insight to business leaders in the field. The sustainability or the actual impacts of the case companies are not in the scope of my thesis.

4. Findings

In this chapter, I shortly present the cases and then go on to the findings of my empirical research, first case by case, and then as a cross-case analysis.

Huuto.net is an online auction site for used products. It was established already in 1999, and continues to be one of the biggest players in its industry in Finland.

Sharetribe originated at Aalto University in 2008 as a platform where students could share and sell used products and offer each other services. Today, Sharetribe offers other actors the opportunity to host a similar marketplace.

Vähänkäytetty.fi is a web store for used products, and one of the new players in the market, originated in Oulu in 2013. The Finnish name of the company means slightly or little used.

We Started This was established in 2013, too. It offers both a web store and a bricks-and-mortar store for quality second-hand clothes. The offline store opened at Iso Omena mall, Espoo, in 2015.

Zadaa offers a marketplace for selling used clothes and accessories in the form of a mobile application. Zadaa is also a young company, founded in 2015.

4.1 Huuto.net

Huuto.net offers its customers a platform for peer-to-peer commerce and auctions, in other words it's a direct channel rather than a facilitator for reuse. As an important part of the value offer, security is paid extra attention to. The solutions for creating trust and secureness include that only registered users can use the site, a possibility to prove one's identity with internet bank services, and a possibility to give feedback points to other users. Furthermore, all activities are traceable, which makes problems and malpractices more easily solvable.

> Interviewee: *"(...) it's a thing we want to emphasize quite a lot that as a marketplace this is one of the safest. "*

The service is targeted to the general public, and customers are divided into two segments; normal users and intensive users (tehomyyjä in Finnish). Intensive users sell remarkably more and are considered to do it professionally. Basic functions are free for the normal users, but intensive users pay a 4,9% commission for each sales transaction, to a maximum of 9,90€ per sale. In addition, users can pay for extra visibility on the site, for access to sales reports, or for other support services, relevant especially for the intensive users. Advertising revenues are a cornerstone of the business model, and advertising companies alongside with delivery companies are the most important partners for Huuto.net. Costs mainly consist of marketing, IT development, advertising sales, and human resources.

> Interviewee: *"(...) that you have, in the service, an adequate number of good [sales] ads, that there is good stuff, in our case good products, and that you have a good usability (...) maybe those two are the most important, I'd say."*

The role of sustainability in Huuto.net's business, from the interviewee's point of view, is that it grows the demand for their business. It feels good to be a part of a more sustainable consumption culture, but economic objectives are still the number one driver in the business.

From the interviewee's point of view, hybrid consumption of both new and used products bought from both online and brick-and-mortar stores has become acceptable and even admirable in Finland, unlike in China, Russia or Japan. Products and clothes for children have been a big category in peer-to-peer commerce already for some time as those products are needed for and fit a child for only a short period of time.

> Interviewee: *"(...) I think it's great that that kind of hybrid consumption, which is accepted in Finland, even a little admired, that you buy new and old mixed, and from the internet and from bricks-and-mortar, we are in that kind of a culture, a culture of consumer behavior today."*

The continuous growth of peer-to-peer commerce drives the markets forward, increasing demand but also drawing new entrants. In the past, Huuto.net didn't really have any competition, but now more and more options are available. Consequently, the biggest challenge in the business is the changing operating environment. It provokes Huuto.net to consider their position and how to differentiate themselves in the market.

The start and the development of the company couldn't be studied as Huuto.net has been sold several times after it was born. The interviewee has only been involved in the business since last year, and the founder of Huuto.net hasn't been involved in the business for a long time.

Figure 6 presents the elements of Huuto.net's business model as a business model canvas.

<table>
<tr><td rowspan="2">Key partners

advertisers, delivery companies</td><td>Key activities

sales of advertising space, customer service, product development</td><td rowspan="2">Value proposition

a safe platform for peer-to-peer commerce and auctions</td><td>Customer relationships

customer service</td><td rowspan="2">Customer segments

normal users and intensive users</td></tr>
<tr><td>Key resources

knowhow of software development, marketing, analytics etc.</td><td>Channels

website</td></tr>
<tr><td colspan="3">Cost structure

marketing, IT development, advertising sales, and human resources</td><td colspan="2">Revenue streams

free basic functions, commissions from intensive users, support services for sellers, advertising revenues</td></tr>
</table>

Figure 6 Business model canvas for Huuto.net

4.2 Sharetribe

Sharetribe offers its customers a chance for hosting a marketplace for peer-to-peer sharing and selling, or renting, for example. Most of the customers target a small and specified group, such as surfers of a certain town. Sharetribe operates in a low-cost segment, and customers are not required too much technological knowledge, so that testing of ideas would be as easy and affordable as possible for anyone willing to try. With a Sharetribe marketplace, customers can more easily charge commissions or other payments, and control their marketplace, when compared to hosting a Facebook group, for example. The service is targeted to anyone interested in starting an online marketplace. There are customers who run the marketplace alongside their regular jobs, startup teams who quit their jobs to found a business, and associations that run a marketplace without a direct profit motive, for example.

> Interviewee: *"(...) on our platform, it's easier to charge a fee, a brokerage for example, and it's a little bit more in your own hands (...)"*

Sharetribe's role in reuse is indirect; it enables its customers to offer either remunerated or non-remunerated redistribution channels. On the other hand, it doesn't control whether the platform is utilized for products or services, or whether products are second-hand or new, for example crafts.

Sharetribe's costs consist mainly of salaries, secondly of purchased services and the office rent. Revenues consist of monthly subscription fees, accounting for an average of 100€ per customer. The subscription fee is connected to the amount of users in the customer's platform; the price thresholds are 300, 1 000 and 10 000 users.

> Interviewee: *"(...) salaries are clearly the biggest cost item (...)"*

Sharetribe mostly has simple supplier relations rather than strategic partnerships. As an exception, one of its investors, Reaktor Ventures offers expert advice of some 300 experts

for Sharetribe and other investees. In addition, there are some start-up incubators who may link new companies they are incubating to Sharetribe for a special price, and bloggers who do affiliate marketing for Sharetribe.

Challenges of the business relate to the monthly payments and to the success of the customer marketplaces. Monthly payments are predictable, but approximately 10% of customers discontinue the subscription each month, which creates a constant need to find enough new customers. The main channel for reaching new customers is Google search. Helping the customers to create a successful marketplace where demand and supply meet is another challenge. Nevertheless, trust in peer markets didn't emerge in the interview as an issue for Sharetribe.

> Interviewee: *"One challenge is at least that even though it's nice to get monthly payments they are predictable (...) you can get started but quite a many also stop quite quickly."*

The history of Sharetribe stems from Aalto University as mentioned. The founders of the company worked in a research project building a marketplace called Kassi for the university in 2008. When the research project was coming to its end, the founders got interested in entrepreneurship, and after trying some other ideas first, they realized that Kassi could be sold to other universities as well. In 2011, they decreased their working hours as researchers and founded the company. In 2012, the name Kassi was changed to a more international name, and a year after that the target segment changed from university campuses to entrepreneurs.

Sustainability has been important for the founders all along although the original Kassi service was closer to potential impacts on sustainability than the current service. The potential impacts of utilizing idle capacity, supporting recycling, and encouraging a sense of community are now dependent on the actions of Sharetribe's customers.

Interviewee: *"In the current model, we are one step further because we only make the software (...) and the uses can differ very much, some are more ecological than some others (...)"*

In the interviewee's opinion, sharing economy has become as a conversation topic, and after the success of AirBnb, Uber and alike, many people have started to think that the same could be done for another sector. In addition, the atmosphere seems to be heading towards utilizing existing resources more effectively, and with less intermediaries, from a person to a person. An interesting change process to follow is how the emerging legal and other problems are solved in the collaborative consumption space; increasing flexibility in working life is good, but the question is whether employees are still at the mercy of big investors and corporations, and whether cooperatives could serve as an alternative and solve the equation.

Figure 7 presents the elements of Sharetribe's business model as a business model canvas.

<table>
<tr><td rowspan="2">Key partners

investor offering advice, service providers for e.g. servers, then bloggers, and business incubators</td><td>Key activities

product development, customer service</td><td rowspan="2">Value proposition

an easy and affordable way to host a marketplace</td><td>Customer relationships

user support, newsletter</td><td rowspan="2">Customer segments

start-ups, individuals hosting a marketplace as a sideline, established companies and non-profit associations</td></tr>
<tr><td>Key resources

knowhow of the market space, software, marketing and customer service</td><td>Channels

internet search engines, website</td></tr>
<tr><td colspan="3">Cost structure

salaries, then purchased services and office rent</td><td colspan="2">Revenue streams

monthly subscription fees dependent on the number of users on the marketplace in question</td></tr>
</table>

Figure 7 Business model canvas for Sharetribe

4.3 Vähänkäytetty.fi

Vähänkäytetty.fi offers a web store for peer-to-peer commerce, which is easy and safe to use. For the sellers, it eliminates the needs to answer buyers' questions, to coordinate the exchange meeting or delivery, to give out bank account details and to worry about getting the money, compared to some other options in the market. For the buyers, it enables choosing and receiving products from multiple sellers easily and at once, resembling a regular web store experience. In other words, it increases trust for both parties more than a simple peer-to-peer platform would. In practice, Vähänkäytetty.fi handles the logistics and the payment traffic, but the seller shoots the photographs and writes the descriptions of the products before sending them in for Vähänkäytetty.fi. There is also a rating system with which the seller can communicate the condition of the product; whether it's unused (rating 5), slightly used (4), good (3), ok (2), or if there is something worth mentioning (1). Thus, the role of the company in reuse is more than just a channel, even though they do not offer a full turnkey solution for the sellers.

> Interviewee: *"The idea of Vähänkäytetty.fi was, especially, to remove all these problems existing in peer commerce and to make the commerce most of all easy and safe for sellers and buyers."*

The majority of the customers are women, especially mothers of small children. Nevertheless, the potential customer segment is bigger, and at the time of the interview, there were plans to expand the service for men; after the interview, new categories such as men's clothes were added to the store.

The revenue model is to charge one euro for each product between the seller and the buyer. Because there are free options in the market, too, Vähänkäytetty.fi doesn't want to charge a commission out of the seller's pocket. Vähänkäytetty.fi's costs consist of storage, delivery, office rent, salaries and server costs.

In addition, Vähänkäytetty.fi donates 0,10€ for each sold product to a charity chosen by the buyer. After twelve weeks, unsold products are either donated to the Finnish Red Cross, or returned to the seller for the price of delivery, or the seller can pay for additional sales time. To minimize the amount of unsold products in the first place, the price of a product is decreased by 20% of the original price in every three weeks. The sales time was eight weeks at the time of the interview and changed to twelve weeks after the interview. The interval for decreasing prices changed similarly from two to three weeks., The business model of Vähänkäytetty.fi has remained essentially the same so far, even though some experiments like this have been done.

Vähänkäytetty.fi has three kinds of partners; charities, logistics and bargaining companies. The charities buyers can choose from are Finnish Red Cross, Save the Children Finland, and Finn Church Aid. Logistics are handled with Matkahuolto and Posti. Bargaining companies are changing partners that give special offers to the regular customers of Vähänkäytetty.fi. The bargaining partners are mostly new, small firms that target a similar clientele with Vähänkäytetty.fi. In addition, a Finnish TV channel MTV owns a part of the company and offers TV advertising time for Vähänkäytetty.fi.

The idea for Vähänkäytetty.fi was born after the founder got his own child, and his wife started to buy used children's clothes from Facebook groups. There was one dress in particular that was very cheap, but the delivery cost was higher than the actual price. The founder of Vähänkäytetty.fi then wondered why not to buy several products at once for the same delivery. The answer was that you would have to buy from one seller only if you wanted to include several products in one package, and it's rare that one seller would have several interesting and suitable products for sale at the same time. After that realization, the founder started to explore the markets, their size, and if there really was no web store offering a similar buying experience for used clothes to what there is for new products.

Sustainability in Vähänkäytetty.fi's business is primarily about enabling the decrease of conspicuous consumption; earlier, there were no convenient ways to redistribute idle

products, and storage companies have been profiting from the ever-increasing amount of material property people have. Now, Vähänkäytetty.fi is a part of the phenomenon that enables people to consume less new products, and utilize idle capacity more, in other words all the needless products people have in their homes taking up storage space. In addition to the operative impact, the charity aspect contributes to sustainability; the amount of donations, 0,10€ per product might sound small, but it actually is 10% of the sales margin.

> Interviewee: *"(...) now this peer-to-peer commerce has grown a lot, so people circulate goods which surely means that this kind of a conspicuous consumption decreases (...)"*

The biggest challenge in the business is marketing. Most of the people who have used the service are coming back to use it again, so reaching new customers to try the service is the challenge. In addition, there are so many solutions for marketing today, and even more are emerging that it's challenging to choose the efficient ones.

In the interviewee's opinion, the market space was influenced heavily by a massive marketing campaign of Tori.fi a few years ago. It gave a push that got people to think more circularly and to realize that old goods can be sold and they don't have to be stored. The market is still growing, more competition is emerging, and the general attitudes and thoughts about second-hand markets are now more positive and accepting. Peer-to-peer commerce will move more and more to the internet and away from traditional flea markets. People are busy so they wish for easy and profitable ways to sell their goods. As the markets grow, the prices are increasing, selling increases, and peer-to-peer buying will become more and more a self-evident solution.

> Interviewee: *"Today, when you see people, they brag at first to each other that, see I found a new shirt from a flea market, for three euros, think about it. So people's opinion on flea markets, it's not so ingrained and obsolete anymore, but they have accepted the idea."*

Figure 8 presents the elements of Vähänkäytetty.fi's business model as a business model canvas.

<table>
<tr><td rowspan="2">Key partners

charities, logistics and bargain companies, owner providing TV advertising</td><td>Key activities

logistics, payment traffic, marketing</td><td rowspan="2">Value proposition

online store for used clothes, decreasing prices maximize sales</td><td>Customer relationships

customer service</td><td rowspan="2">Customer segments

women, especially mothers, secondly men</td></tr>
<tr><td>Key resources

knowhow of logistics, marketing and customer service</td><td>Channels

internet search engines, Facebook, TV advertising, web site</td></tr>
<tr><td colspan="3">Cost structure

storage, delivery, office rent, salaries and server costs</td><td colspan="2">Revenue streams

one euro for each product sold</td></tr>
</table>

Figure 8 Business model canvas for Vähänkäytetty.fi

4.4 We Started This

We Started This, or WST as abbreviated by the company itself, offers quality second-hand clothes both in a web shop and in a bricks-and-mortar store. WST wants to offer a nice and pleasant way for buying used clothes, and aims to offer a similar shopping experience to new clothes; WST explicitly does not want to be only a marketplace even if it would make scaling the business simpler.

The nature of the value offer is that the clothes need to be in an excellent condition and of desirable brands, and customer service is a vital part of the operations. One aspect that makes the web store appear more like a traditional web store selling new clothes is that WST photographs all the clothes on a model. The positioning of WST as a brand

alongside any apparel company makes trust less of an issue than in cases where products are exchanged directly from customer to customer as WST takes the responsibility of both payments and quality, and is the direct trading partner for the buyer.

> Interviewee: *"The idea is essentially that you can actually choose used clothes so that the shopping experience, you don't have to make compromises or lower any standards only because you want to buy second-hand, but that it's an equal experience to buying new."*

WST sees that curators are needed the most in the market as there is so much supply. Someone needs to organize the huge selection, build a coherent whole to choose from, and offer it accessibly for customers. Consequently, WST is clearly an active facilitator for reuse. WST could be called a consignment store; it sells high-quality second-hand clothing, and pays a percentage to the consigner whose clothing is sold (Han, 2013) even though a minor part of sourcing is also done directly by WST.

The customer base of WST is mostly women, aged approximately 30-50 in the web shop and 40-60 in the brick-and-mortar store. The target group is not recycling enthusiasts only, but rather anyone who is interested in buying second-hand clothes with an emphasis on customer service and quality. The difference is that younger people may be willing to do more work in finding clothes in order to pay less, but WST's customers rather choose to pay a little more and avoid the inconvenience of self-service channels.

> Interviewee: *"(...) we do photograph all [the products] on a model, it's nicer for the person shopping there [in the web store] (...)"*

The idea of WST was created gradually by three students who started to wonder why there is no regular-looking web store for used clothes. They did some project works for their university studies in which they prepared the idea further, and a couple of years later started the web store. Alongside the web store, they tried pop-up shops in different locations and events to complete the online channel. First, the business was based on

selling the clothes of friends and family, or clothes bought from other marketplaces, but soon enough strangers started to send in their used clothes to be sold as well. As the founders were first hesitant to take customer's clothes for sale alongside their own products, they experimented with a marketplace spinoff but the experiment was short-lived. Even though a marketplace model didn't take off for WST, the dual model of acquisitions remains to this day; WST both buys used clothes itself, and forwards customers' used clothes. Forwarded products are the majority today, simply because of the demand for that kind of a service.

> Interviewee: *"(...) first we sold friends' and acquaintances' clothes but quite quickly it went so that complete strangers sent [theirs, asking], could you sell mine, too."*

WST's revenues come from sales only as advertising doesn't fit the positioning and image of a regular clothes store in their opinion. However, the revenues depend on how the article was acquired; consumer sellers are paid 50% of the sales price, whereas for the bought articles, WST can determine any price point they like, regardless of the buying price. The biggest costs are the rent of the store and the salary of one employee who was hired when the founders continued their studies at university.

Challenges affecting WST's business include issues related to scalability, work community and revenue streams. When there is only one piece of each garment, the business cannot be scaled quite easily. Work community challenges stem from the founders' scarcity of work experience outside WST. On one hand, the scarcity prevents WST from being stuck to established, old practices, but on the other it makes it more difficult to get the work community to run professionally as opposed to friends and sisters casually interacting with each other. The monotony of revenue streams presents the third challenge. A handling fee for the customers has been suggested as processing of the products takes a lot of time. Regardless, a handling fee hasn't been introduced because it might limit the amount of incoming products.

The main partner for WST is Marimekko. WST first piloted cooperation with Marimekko's employees who brought their used Marimekko clothes to WST, and WST assembled a collection of them. The pilot was a success, and during the previous Paris fashion weeks they launched a wider cooperation in the flagship store of Marimekko in Helsinki, to collect used Marimekko clothes from anyone. The collecting events on the spot are temporary, but selling of the collections is continuous.

WST looks at sustainability as a broad concept on which its business is grounded. In addition to the most obvious impact, the products, WST strives to make customer relationships and business growth sustainable, too, for example.

As an example of an impact on sustainability, the treatment of unsold products is taken care of in a few ways at WST. If the product has been sourced by WST, it has been selected as carefully as possible to avoid it ending up unsold. Nevertheless, some products don't sell on any price, so they are recycled into clothes and textile collecting points. If the product is being forwarded from a customer and doesn't get sold, the customer gets the product back. If a customer doesn't want the product back, it's recycled in the same way with WST's self-sourced products.

As mentioned, WST positions itself alongside regular clothes stores, and doesn't compete with second-hand groups on Facebook, or with charities selling second-hand clothes, for example. In the interviewee's opinion both entrepreneurship and sustainable development are much more popular now than a few years ago, and consequently, existing brands are starting to get involved in sustainable and reuse opportunities that are becoming mainstream. Finland is already moving from a consumption society to a recycling society as some level of material saturation has been reached. On the contrary, Russian consumers, for example, are still looking for new products.

Figure 9 presents the elements of WST's business model as a business model canvas.

<table>
<tr><td rowspan="3">Key partners

Marimekko</td><td>Key activities

preparing clothes for sales, marketing, communications, store managing</td><td rowspan="3">Value proposition

quality second-hand clothes online and at a store</td><td>Customer relationships

quality customer service</td><td rowspan="3">Customer segments

women aged approximately 30-50 in the web shop and 40-60 in the store</td></tr>
<tr><td>Key resources

knowhow, store location</td><td>Channels

word-of-mouth, Facebook, blogs, web and physical stores</td></tr>
<tr><td colspan="2">Cost structure

store rent, employee salary, secondly purchased services and product sourcing</td><td colspan="2">Revenue streams

sales</td></tr>
</table>

Figure 9 Business model canvas for We Started This

4.5 Zadaa

Zadaa offers a mobile application for selling used clothes and accessories. The core idea is to connect users of same size and style, so that they can sell and buy clothes to and from each other. To the knowledge of Zadaa, there is no other mobile service in the world that would focus on connecting the right people in this way. Transactions in the application are secured, so that in case of problems, money can be returned. This feature is a solution for creating trust. To moderate the quality of products sold, there is a minimum price of five euros per product. As a marketplace, the company's role in reuse is to be a direct channel rather than an active facilitator.

> Interviewee: *"(...) our goal is, after all, to create a big clothes network of people who are of your style and your size, and not only a flea market, and we aim at solving the size problems, and here we are the unique one."*

The target group of Zadaa is people who want an easier solution than the bazar-like fighting experience that most traditional and online second-hand shops offer at worst. As Zadaa's service is in English, on a mobile platform, and its login is made through Facebook, the target group needs to handle these features and is therefore youngish. The main target group is women, but men's clothes were added to the service after the interview.

The revenue model is based on gradually decreasing commissions; products priced five euros or more are charged a 20% commission of, and then the commission gradually decreases to 5% of 400 euros or more. The most important costs are employee salaries and marketing.

> Interviewee: *"We have a commission model (---) we have, of course, the possibility to think about advertising or data things, but we don't necessarily want to do that kind of thing there."*

The important partners for Zadaa's business include an investor who has influential blog contacts, and Save the Children Finland, to which the sellers can donate a part of the selling price or the whole of it if they wish.

Zadaa was born after a friend of the interviewee published a status in social media with loads of clothes in it, inviting friends to come over and try them out. The founders were wondering why the friend wasn't using any of the existing marketplaces to sell the clothes. They realized that the existing services didn't cover the market well, because clothes are much more personal than many other products; no one else in a household can typically use them after they are bought as the style and the size matter a lot. After the idea was born, the founders acted quickly, and within six months the Zadaa app was available for consumers. As the company is very young, there haven't been any significant changes to its business model yet.

Sustainability isn't really emphasized in Zadaa's service because it's not a sales argument, or the primary motivation for people to buy and use second-hand products. Zadaa's point of view is that a service has to be fun, easy, convenient, and trendy, and only after that comes the additional plus of it being ethical. If sustainability was the main driver, the customer base would be too narrow, in the interviewee's opinion. Nevertheless, Zadaa has participated in Commitment 2050 ("Sitoumus 2050"), which is a government-led program in Finland for all actors of society to declare their goals regarding sustainability. Still, Zadaa will have a much bigger opportunity for positive impacts on sustainability if it grows to reach markets beyond Finland.

The biggest challenge for Zadaa in its business is to create a peer-to-peer market where supply and demand meet, in other words to reach a critical mass (Botsman & Rogers, 2010). When it comes to user acquisition, Zadaa competes with all applications for the users' time and mobile storage space. It is also a challenge that the most attractive products are sold more quickly in the service and the less attractive are displayed for longer. The digital and marketing aspects are not experienced as major challenges by the interviewee due to the experience the founders have in those areas.

> Interviewee: *"It's a kind of a dilemma that good products go [and get sold] quickly, and less attractive ones will hang around and are more at the front. For example, clothes sized S go quicker than others."*

Zadaa expects that the operating environment keeps changing fast, and everything is done increasingly on mobile phones instead of desktops or tablets. One essential question is whether Facebook will build the world's largest marketplace because so much is being traded there already. However, the interviewee regards it's unlikely to happen.

Figure 10 presents the elements of Zadaa's business model as a business model canvas.

<table>
<tr><td rowspan="2">Key partners

Save the Children Finland, and investor with blog contacts</td><td>Key activities

marketing, customer service</td><td rowspan="2">Value proposition

mobile marketplace that brings together users of same size and style</td><td>Customer relationships

newsletter</td><td rowspan="2">Customer segments

people willing and able to use an app, in English, mostly women</td></tr>
<tr><td>Key resources

knowhow of digital business, marketing and coding, e.g. for payment transactions, and for connecting the users</td><td>Channels

Facebook, word-of-mouth, blogs, the mobile application</td></tr>
<tr><td colspan="2">Cost structure

salaries, secondly marketing and communications</td><td colspan="3">Revenue streams

5 %-20 % commission</td></tr>
</table>

Figure 10 Business model canvas for Zadaa

4.6 Cross-Case Analysis

The business models of the five case companies were similar in several aspects and different in others. This subsection describes the variability of the studied business models, through the elements of the business model canvas, and the other aspects of the theoretical framework presented in the chapter 2.5.

4.6.1 Elements of the Business Model Canvas

The value propositions of the case companies differ noticeably although they all enable consumer product reuse. Huuto.net offers a platform for trustworthy peer-to-peer auctions and sales. Sharetribe offers entrepreneurs an easy and affordable choice for hosting a marketplace. Vähänkäytetty.fi, WST and Zadaa aim at making the customer experience of buying second-hand products more convenient and competitive in relation to the

experience of buying new clothes. Vähänkäytetty.fi emphasizes easiness, WST quality and Zadaa trendiness and style in their services. Huuto.net's and Sharetribe's main sales channels are their websites, Vähänkäytetty.fi concentrates on a web store, WST offers both online and offline stores, and Zadaa concentrates on a mobile application. An essential feature of Zadaa's service is to connect people of the same size and style. In the services of Vähänkäytetty.fi and Huuto.net, for example, a customer needs to use a search feature or filters to find the right size, and those searches often return results of poor quality, as the product descriptions made by the sellers are not standardized, and shoe and clothes sizes cannot be told apart, for example.

The key activities of the case companies consisted of marketing, customer service and product development. The differences of key activities concerned payment transactions, handling and delivery of products, and sales for advertisers, which only some of the case companies do each, depending on their value proposition. The key resources included mostly necessary software for each service, and knowhow in different areas.

The only core partnership that emerged in the interviews was that of WST and Marimekko. Marimekko is one of the best-known Finnish clothes brands, and WST has partnered with them to collect used Marimekko clothes in their flagship store in Helsinki, and then create collections to be sold online. Otherwise, partners in the case companies included charities receiving donations and clothes, investors offering advice and contacts, and delivery and advertising companies.

Costs in the case companies were quite straight-forward; marketing, IT development, salaries, and rents, all of which can easily be attributed to the other features of the business models. For example, Vähänkäytetty.fi handles the logistics of peer-to-peer commerce, so it needs to pay for warehouse space.

On the contrary, revenues of the case companies were quite versatile. E-businesses have a myriad of potential revenue sources (Clemons, 2009; Dubosson-Torbay et al., 2002), so it can be beneficial to experiment which revenue sources and business models work

best in the reuse market. Sharetribe charges its customers a monthly subscription fee according to the number of users on a customer's marketplace. Huuto.net's revenues are largely based on advertising. It offers the basic services for free, only intensive users pay a commission, and users can buy additional support services. Vähänkäytetty.fi charges a fixed fee for each sales article, WST charges a fixed percent commission, and Zadaa a gradually decreasing commission. The model of Vähänkäytetty.fi could probably be defined as a commission, too, but the interviewee didn't define it so, and the customer experience may be in accordance with the interviewee's point of view because of the way the payment is structured; the seller chooses a price and the fee is added to it, not reduced from it.

Vähänkäytetty.fi, Huuto.net, and Sharetribe most clearly are targeted to anyone interested in the service. WST and Zadaa have a more detailed customer profile, targeting quality-conscious people in the former, and those able to use a mobile app in English in the latter. Customer relationships were managed mainly by customer service, customer support and newsletters in the case companies. A large majority of customers of Vähänkäytetty.fi, WST and Zadaa are women. Zadaa and Vähänkäytetty.fi serve younger women, the latter especially those who have children. WST serves women mostly between the ages of 30-60, with a tendency of older customers preferring the offline store and younger preferring the online store. The interviewees of Huuto.net and Sharetribe didn't bring up any gender distribution of their customers. A gender imbalance might hinder a systemic change towards reuse becoming mainstream behavior, thus it should be studied more in order to find out whether a gender imbalance is a common phenomenon in the reuse market or just a coincidence in the case companies of this study.

4.6.2 Additional Aspects of the Theoretical Framework

In addition to the nine elements of the business model canvas, I chose the following four themes to be studied based on earlier literature: First, the start of the business, the development of the business model, and the challenges of the business were studied in order to explore any experimental elements of the case companies. Secondly, trust creation emerged from the literature as a potentially important theme affecting reuse

businesses. Third, the role of the case companies in reuse was chosen to categorize the case companies. Fourth, the interviewees' aspirations towards sustainability were studied in order to get an indication of whether the theme of sustainability is somehow present in the case companies.

Three of the case companies, namely Vähänkäytetty.fi, WST, and Zadaa, got their business idea out of a personal observation of an underserved market. Sharetribe originated from a research project. The interviewee of Huuto.net couldn't answer questions about how the business was born as the service has been founded by someone who hasn't been involved in it for many years, and the interviewee wasn't involved in the earlier stages of the service himself.

There had been few changes in the business models of the case companies. Sharetribe has changed their name and target group since the business was established, and WST took customers clothes for sale alongside the products they have sourced themselves. Vähänkäytetty.fi and Zadaa didn't make any significant changes into their business models so far, and for Huuto.net, the information was unavailable. The scarcity of changes may be attributed to the small number and the young age of the case companies in this study and consequently, it shouldn't be generalized.

The challenges of the case companies were somewhat different. As an established player, Huuto.net wasn't concerned about having enough customers but about the changes in the market space. As new solutions emerge, they need to reposition themselves and choose their battles in the market so to speak; in which product categories they want to compete, for example. Sharetribe and Zadaa were concerned about getting supply and demand to meet, in other words about having the critical mass in either a customer marketplace for Sharetribe or in the app for Zadaa. Vähänkäytetty.fi was concerned about reaching enough people as their experience is that once people use the service, they do come back. Sharetribe had a little different experience as they want to encourage entrepreneurial tries in the platform but naturally some of them fail and consequently, Sharetribe needs new customers to replace those who discontinued the subscription. WST was concerned about

whether their business is scalable within the current model, and about leadership issues related to hiring the first employees.

Trust emerged in several interviews, and there were multiple ways to create trust in the case companies. Vähänkäytetty.fi and WST act as intermediaries taking responsibility themselves, and consequently trust between peers isn't such a big issue; they handle both payments and products in behalf of the customers. Huuto.net enables trust between strangers by demanding users to register before using the service, by enabling an official identity check through bank services, and by providing a feedback system for the transactions. Zadaa enables trust by a Facebook login – most people have their name and picture on Facebook, and if they don't, other users can opt not to trade with them. In addition, transaction payments go through Zadaa as opposed to Huuto.net where peers pay each other directly. This way, returns are possible in Zadaa. Sharetribe doesn't interact directly with consumers, so trust between strangers isn't so relevant in their business model.

When it comes to the roles of the companies in reuse, two of the cases are clearly direct channels for reuse, namely Zadaa and Huuto.net, who don't handle the actual products but only a platform for peer-to-peer commerce. Sharetribe's role is indirect as it doesn't provide a reuse channel itself but its customers do. Vähänkäytetty.fi and WST are facilitators for reuse, the former handling logistics and payment traffic on behalf of its customers, and the latter handling also photographing and product descriptions, in other words practically everything for the customer, who only delivers the product to be sold to WST.

Interestingly, WST was the only case company that intuitively positioned itself alongside traditional retailers; the interviewee mentioned any clothes chain as their competitors, whereas other companies positioned themselves to compete in the second-hand sector. The target markets give an indication of whether the company might initiate a more systemic change as called for by the ideology of circular economy.

In chapter 2.2, I presented the framework of Matzler et al. (2015) who described how companies can benefit from collaborative consumption. Huuto.net, Vähänkäytetty.fi, WST, and Zadaa fall under their second category; they support consumers doing resales, and Sharetribe falls under the sixth; it utilizes collaborative consumption in a new business model by offering other parties the opportunity to operate in the second category.

None of the case companies mentioned sustainability as a motivation for founding their business or as a main sales argument. They emphasized easiness, affordability, and style or quality instead. On the other hand, all of the case companies are aware of sustainability as a part of their business, which might mean that sustainability is integrated in the businesses (Halme & Laurila, 2009). Bolt-on sustainability such as philanthropy is often criticized for a lack of systemic approach, unlike integrated sustainability. However, the answers of the interviewees also reflected that sustainability is taken for granted to some extent. Consequently, there might be unused potential in their operations for sustainability. If the case companies assessed their businesses from the aspect of sustainability more profoundly, they could possibly achieve more positive impacts on sustainability.

The five interviewees had quite a similar view of the markets; that there has been a notable change towards collaborative consumption in the recent years and that the markets will keep growing. Interestingly, both the interviewees of Huuto.net and WST mentioned that Finland is ahead of other countries like Russia in the change of the consumption culture. The interviewee of WST talked about a change from a consumption society to a recycling society as we have reached some level of material saturation in our society, and the interviewee of Huuto.net talked about emerging hybrid consumption that combines consumption of new and used products bought online and offline. Questions the interviewees raised about the future of the markets included whether Facebook decides to build a marketplace, to what extent existing brands get involved with new consumption alternatives and how the emerging legal problems of sharing economy are solved. One essential difference of opinions was that the interviewee of WST included second-hand

and traditional retail organizations in the same markets to some extent unlike the other interviewees.

Collaborative consumption includes also giving of products for free (Hamari et al., 2015). Out of the case companies, Sharetribe and Huuto.net enable free transactions, whereas the business models of WST, Zadaa and Vähänkäytetty.fi depend on paid transactions as their revenues are tied to payments.

As an example of a single sustainability issue, the treatment of unsold products was looked into. In three of the cases, Huuto.net, Sharetribe, and Zadaa, the company doesn't handle the products offered for reuse, and consequently, treatment of unsold products is left for the customers. On the contrary, Vähänkäytetty.fi and WST handle the products themselves and had developed ways to deal with unsold products; both included a possibility to return products to the seller, and a possibility to donate the products to charity. In addition, both try to minimize the amount of unsold products, WST mostly by selecting the articles very carefully in the first place, and Vähänkäytetty.fi by a mechanism that decreases the price of an article by 20% in every three weeks for a total sales time of 12 weeks. After 12 weeks, sellers still have an opportunity to pay for additional sales time.

If the net benefits, including the economic, environmental and social ones, of these organizations' operations were to be evaluated, Alexander and Smaje's (2008) evaluation model of third sector furniture reuse organizations could provide some insights. In any case, the sustainability of a business needs to be evaluated from a systemic perspective and not only on the level of the company (Aarras, 2015). Transport of the reuse products is likely to yield most of the negative environmental impacts of reuse if the products are not processed further in the reuse scheme (Castellani et al., 2015). In this regard, WST and Vähänkäytetty.fi are creating more negative environmental impacts as they are active facilitators through which all products pass, whereas in Huuto.net's and Zadaa's services, the products pass straight from consumer to consumer, avoiding additional transportation. However, as the overall impact of reuse is likely to be positive (Castellani et al., 2015),

the overall impact of the cases is dependent on the quantity of products reused. If the models of WST and Vähänkäytetty.fi can bring about more reuse than the passive intermediators, or reach additional consumer or product groups, in other words bring about additional reuse, they are likely still producing positive impacts altogether. However, if they compete for the same exact reuse with the passive intermediators, the latter are likely to be the environmentally better solution. Sharetribe is not comparable in this regard, as both direct and indirect models are possible within its services.

5. Discussion

The theoretical framework I created for this study consisted of the nine elements of the business model canvas and of four additional themes (see figure 5 on page 29). In this chapter, I discuss the suitability of those 13 themes for the consumer product reuse business in the light of the empirical results of the study, and develop a revised framework for depicting business models in the consumer product reuse industry.

Maybe the most obvious deficiency of the business model canvas in the consumer product reuse business, based on my study, is the structure of the canvas; suppliers are depicted on the left, as a starting point of the value chain, and customers are depicted on the right as the destination of the value chain. In consumer product reuse business, however, customers and suppliers are part of the same population (Gelbmann & Hammerl, 2015), thus a circular model might describe the business better than a linear one. Aptly, a circular figure would also be a reminder of reuse as a part of circular economy.

Out of the four additional themes, I chose three to be incorporated in the revised framework: trust creation, aspirations for sustainability and role in reuse. Trust creation clearly emerged from the interviews as well as from the literature as an important theme in consumer product reuse business, related to the value proposition and customers. Aspirations for sustainability might not play a huge role in the business models but is still present at all times and an important theme in a societal sense as reuse has a lot of potential for sustainability. The role of a company in reuse appears to be closely related to the value proposition of a company, and a practical tool for describing companies in the consumer product reuse business. On the contrary, the start and development of the businesses as well as their challenges are not essential parts of their business models, based on this study, even if those elements can describe and increase understanding of a business.

Thus, based on the literature review, the data and the analysis, I revised the theoretical framework and created a new framework for describing business models in the consumer

product reuse business. The revised framework is depicted in the figure 11. The arrows in the framework depict the products to be reused; they pass from the consumers to the reuse companies and back to the consumers. The dashed line depicts the variability of the businesses in their roles in reuse; whether the products physically pass through the company or circle directly to consumers. The circular arrow passes through the key activities, the value proposition and the revenues of the company as those elements are most directly related to whether the line is dashed or continuous, in other words whether products pass through the company or not.

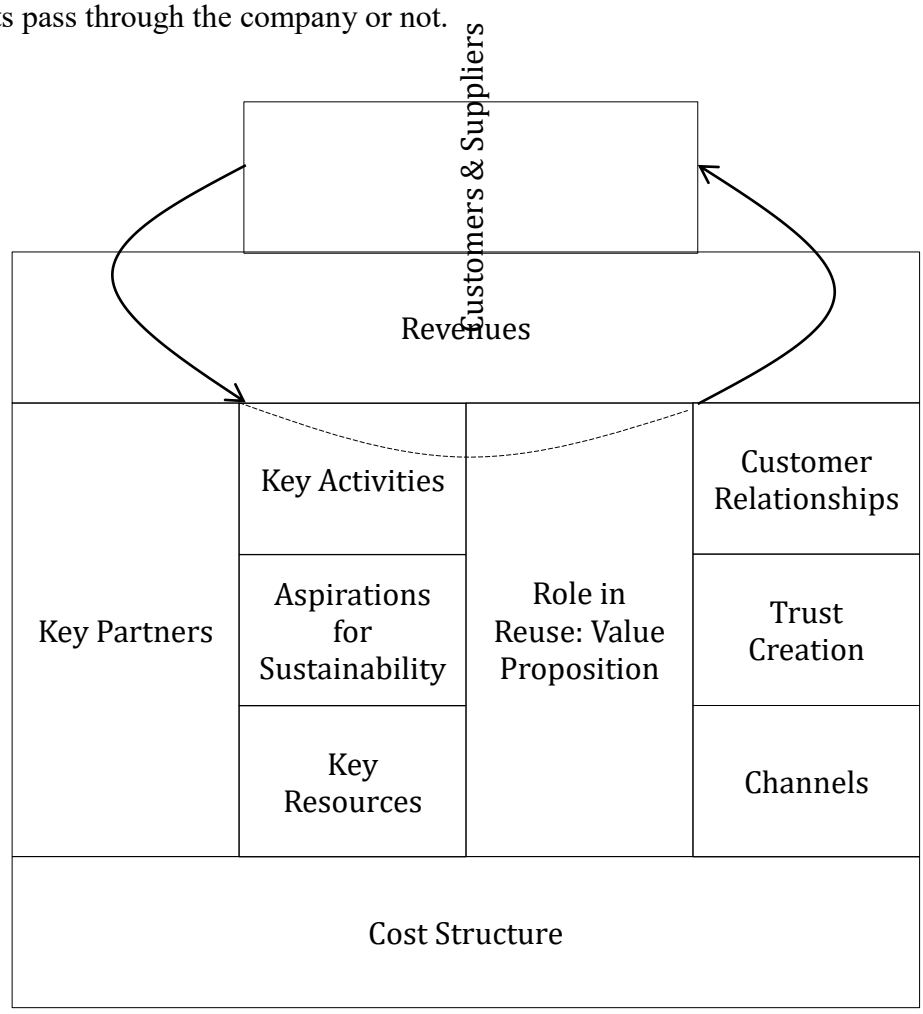

Figure 11 The revised framework

6. Conclusions

Today, environmental concerns are discussed maybe more than ever. Phenomena like circular economy and collaborative consumption are expected to provide new solutions for sustainable development. In this thesis, I set out to study consumer product reuse businesses in order to increase knowledge of existing practices in the fields of circular economy and collaborative consumption, and to make a beneficial contribution for practitioners trying to achieve a more sustainable future by making reuse a mainstream model of consumption.

Both the concepts of circular economy and collaborative consumption are fairly new, and there is scarce past research of them from the aspect of business models or consumer markets. In addition, there is limited research for either of the phenomena in the Finnish context. For those reasons, I posed the following research questions:

> What kind of business models are there for consumer product reuse in Finland? How could those business models be described?

The methodology of the thesis was a qualitative multiple case study, and the data was gathered through interviews with company founders except for one case in which the founder wasn't involved in the business anymore. The case companies were Huuto.net, Sharetribe, Vähänkäytetty.fi, We Started This, and Zadaa.

As an exploratory study, the thesis did not present all reuse business models comprehensively but rather described some examples, limited to those providing online services. The results indicated that there are diverse business models in use, some of which provide only a platform for peer-to-peer exchanges, and some providing turnkey solutions or something in between for consumers willing to reuse. In addition to the nine elements of the business model canvas, I found three themes to be valuable in describing business models of consumer product reuse; the solutions for trust creation, the role of the company in reuse, and the company's aspirations for sustainability. All of the three themes emerged from earlier literature and proved valuable in the interviews. Based on

these themes, I created a framework for describing consumer product reuse business models. The framework, and also what was excluded from it, are presented in detail in the chapter 5.

For practitioners like managers of reuse companies, my thesis offers an overview to the variability of business models used in the market, as well as understanding of components important for the specific market, such as trust creation.

The business models of the case companies had somewhat different target groups, and for three of the five case companies, women presented the large majority of the customers, while the other two didn't bring up any gender imbalance. The gender imbalance detected in this study might hinder a systemic change towards circular economy if it's a common phenomenon in the reuse market. Based on this study, it is not possible to generalize or hypothesize whether a gender imbalance will be found in the market systematically, therefore it's clearly a theme worth studying in further research.

This study concentrated on five cases only, thus broader studies would be beneficial for a deeper and more general understanding of the growing reuse markets. For example, comparative studies could get into the differences of reuse businesses based online and offline, or compare reuse companies acting as active facilitators to those acting as direct channels. In addition, the long-term viability and profitability of different business models in the reuse sector would be worth studying, and certainly beneficial to practitioners.

To complete the ideology of circular economy, it would be important to study the environmental, social and economic impacts of reuse businesses, in other words whether they are sustainable or not. Studying the sustainability of these businesses needs to consider, for example, the degree to which reuse replaces new products, and the impacts of logistics related to reuse.

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Appendix I – Interviews

Company	Time and place of the interview	Interviewee
Huuto.net	13.5.2016, 10:00-10:40, Sanoma offices	Heikki Lempinen, Director of eCommerce
Sharetribe	6.5.2016, 13:30-14:00, Sharetribe offices	Antti Virolainen, Co-founder & COO
Vähänkäytetty.fi	19.5.2016, 14:00-14:30, on Skype	Ossi Salo, Founder & Business Director
We Started This	25.5.2016 17:30-18:30, Twist Café, Helsinki	Marta Jaakkola, Founder
Zadaa	11.5.2016, 11:00-11:30, Zadaa offices	Iiro Kormi, Co-founder & CEO

Appendix II – Websites of the Case Companies

All visited last on October 20th 2016.

Company	Website
Huuto.net	http://www.huuto.net/
Sharetribe	https://www.sharetribe.com/ https://aalto.sharetribe.com/
Vähänkäytetty.fi	http://vahankaytetty.fi/
We Started This	http://wst.fi/
Zadaa	http://zadaa.co/ Zadaa app for iOS